Glossary

Adaptation: adjustments in an organism or its parts to help it live in its environment.

Analyze: to thoroughly test or investigate a sample to find specific information.

Atmosphere: mixture of gases that surround a planet.

Channel: a river-like depression that is longer than it is wide; a place or bed where fluid(water) flows or flowed.

Characteristics: the features that identify something.

Chryse Planitia: (cry´ sēē plän ĭ´ tiə) plain of gold.

Composition: the general makeup or characteristics of material such as rock or soil.

Crater: a hole or depression; most are roughly circular or oval in outline; on Earth most natural craters visible at this point in geologic time are of volcanic origin; on Mars and the Moon most craters are of impact origin.

Criteria: traits used to judge.

Ejecta: material thrown out from and deposited around an impact crater.

Environment: the many conditions surrounding an organism.

Eroded: physically changed rocky material; on Earth and Mars this especially includes weathering and transport of material by water and wind; on Mars there is also more evidence of erosion by repeated meteorite impacts.

Eruption: the outflow of hot lava and other materials like ash from a volcano or crack in rock.

Geology: the science of Earth and Earth history as well as solid bodies in the solar system.

Gravity: a physical force that explains the attraction of one mass to another.

Habitat: the natural place where an organism lives, including the surrounding environment.

Impact: the forceful striking of one body, such as a meteorite, against another body such as a moon or planet.

Interpretation: to consider scientific evidence or information and come to a logical explanation of something.

Layers: a bed of rock, often horizontal or slightly sloping.

Mare: dark area on the Moon covered by basalt lava flows.

Metabolic: having to do with chemical change taking place in living cells.

Meteorite: a metallic or stony body that has fallen from outer space and landed on a planetary body.

Orbit: the path of an object in space moving about another under gravitational attraction.

Organic: living or previously living material containing carbon.

Organism: a living complex being.

Properties: special identifying traits or features of something.

Radiation: energy given off by the Sun. Exposure to radiation is harmful to living organisms at some levels.

Replication: the process of reproduction.

Robotic: a spacecraft or other machine that operates remotely without direct human contact.

Sequence: a list of things or events in a special meaningful order.

Simulant: material that represents or is very much like something else.

Slope: a slanting surface.

Source: beginning or start of something, location where something comes from.

Stratigraphy: layers of rock, often as viewed sideways like a stack of pancakes.

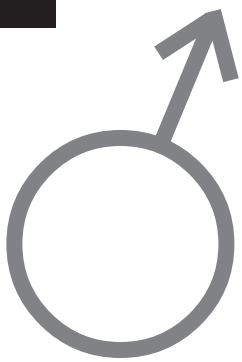
Sun Angle: the direction the Sun is shining on the planet surface measured from the horizon.

Texture: general physical appearance of minerals in a rock.

Trajectory: the curving path of a spacecraft.

Mars Fact Sheet

Fourth planet from the Sun



Distance from the Sun:
Minimum: 206,000,000 kilometers
Average: 228,000,000 kilometers
(1.52 times as far as Earth)
Maximum: 249,000,000 kilometers

Eccentricity of Orbit: 0.093 vs. 0.017 for Earth (0.00 is a perfectly circular orbit)

Distance from Earth: Minimum: 56,000,000 kilometers
Maximum: 399,000,000 kilometers

Year: 1.88 Earth years = 669.3 Mars days (sols) = 686.7 Earth days

Day: 24.6 Earth hours

Tilt of Rotation Axis: 25.2° vs. 23.5° for Earth

Size: Diameter: 6794 kilometers vs. 12,756 kilometers for Earth
Surface Gravity: 0.38 (or ~1/3) Earth's gravity
Mass: 6.4 x 1026 grams vs. 59.8 x 1026 grams for Earth
Density: 3.9 grams/cc vs. 5.5 grams/cc for Earth

Surface Temperature: Cold
Global extremes: -125°C (-190°F) to 25°C (75°F)
Average at Viking 1 site: high -10°C (15°F); low -90°C (-135°F)

Atmosphere: Thin, unbreathable
Surface pressure: ~6 millibars, or about 1 /200th of Earth's
Contains 95% carbon dioxide, 3% nitrogen, 1.5% argon, ~0.03% water (varies with season), no oxygen. (Earth has 78% nitrogen, 21% oxygen, 1% argon, 0.03% carbon dioxide.)
Dusty, which makes the sky pinkish. Planet-wide dust storms black out the sky.

Surface: Color: Rust red
Ancient landscapes dominated by impact craters
Largest volcano in the solar system (Olympus Mons)
Largest canyon in the solar system (Valles Marineris)
Ancient river channels
Some rocks are basalt (dark lava rocks); most others unknown
Dust is reddish, rusty, like soil formed from volcanic rock

Moons: Phobos ("Fear"), 21 kilometers diameter
Deimos ("Panic"), 12 kilometers diameter

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